If you are using a printed copy of this procedure, and not the on-screen version, then you MUST make sure the dates at the bottom of the printed copy and the on-screen version match. The on-screen version of the Collider-Accelerator Department Procedure is the Official Version. Hard copies of all signed, official, C-A Operating Procedures are available by contacting the ESSHQ Procedures Coordinator, Bldg. 911A

C-A OPERATIONS PROCEDURES MANUAL

15.3.1.5 AGS Sextupole Magnet Coil Test Procedure

(Booster/AGS Ring Power Supply Systems Group Procedure EPS-A-001)

Note: This document was formerly a C-A Group Procedure. The content of the group procedure was reviewed by the Technical Supervisor. All approvals and/or issue dates of the original group procedure are maintained for present use.

Hand Processed Changes

HPC No.	Date	Page Nos.	Initials

Approved: _____***Signature on File***_____ _____
Collider-Accelerator Department Chairman Date

M. Bannon

Booster/AGS Ring Power Supply Systems
Group Procedure EPS-A-005
Revision 00

15.3.1.5 AGS SEXTUPOLE MAGNET COIL TEST PROCEDURE

EQUIPMENT REQUIRED: ***BIDDLE*** **500VDC MEGGER-CATALOG #210800**
ROD-L ELECTRONICS **HIPOT TESTER-MODEL M100DC**
AGS *PSG* RINGER- #2
TEKTRONIX **ISOLATION PROBES-MODEL #P5200**
LECROY **OSCILLISCOPE W/PRINTER**
HEAVY DUTY ALUMINUM FOIL
GROUNDING STICK
HIGH VOLTAGE RUBBER GLOVES
SAFETY GLASSES

NOTE: HIGH VOLTAGE RUBBER GLOVES MUST BE WORN FOR MEGGER AND HIGHPOT TESTING

A) MEGGER TEST

Tightly wrap the entire coil in **ALUMINUM FOIL** leaving about ½" between foil and conductor at the ends.
Short both ends of coil to each other.
Connect the **POSITIVE** lead of the **MEGGER** to one end of the coil.
Connect the **NEGATIVE** lead of the **MEGGER** to the foil.
Turn **MEGGER** on for 30 seconds and record the resistance on the **COIL EVALUATION SHEET.**

B) HIPOT TEST

With the coil still wrapped and the ends still shorted,
Connect the **POSITIVE** lead of the **HIPOTTER** to one end of the coil.
Connect the **NEGATIVE** lead of the **MEGGER** to the foil.
Turn the **HIPOTTER** on for 1 minute and record leakage current on **COIL EVALUATION SHEET.**

C) PULSE CHECK (COIL RINGING)

NOTE: COIL MUST BE OUT OF STEEL AND NOT ON A METAL TABLE. USE A LECROY SCOPE WITH A TEKTRONIX ISOLATION PROBE AND PRINT A COPY TO INCLUDE WITH THE COIL EVALUATION SHEET.

Unwrap coil and remove short across the ends.
Set up the **DC POWER SUPPLY** for **10VDC.**
Connect the **POSITIVE** lead of the **RINGER AND ISOLATION PROBE** to one end of the coil.
Connect the **NEGATIVE** lead of the **RINGER AND ISOLATION PROBE** to the other end of the coil.
Turn on the **DC POWER SUPPLY.**
Turn on the **RINGER.**
Push the **RED TRIGGER BUTTON** on the **RINGER** to ring the coil, and capture it on the **SCOPE.**
Print out the result and attach it to the **COIL EVALUATION SHEET.**